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MINIMAL BRAIN DYSFUNCTION.

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A FEATURE ARTICLE REPRODUCED FROM THE CHICAGO TRIBUNE DELINEATES THE MAJOR FEATURES OF MINIMAL BRAIN DYSFUNCTION. AFTER TERMINOLOGY AND ETIOLOGY ARE DISCUSSED, 10 POSSIBLE SYMPTOMS AND THE SEVEN ASPECTS OF A COMPLETE DIAGNOSIS ARE LISTED. ADVICE IS GIVEN PARENTS AND OTHERS ON HOW TO HELP AND GET HELP FOR BRAIN INJURED CHILDREN. (DF)

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MARCH 1967

MINIMAL BRAIN DYSFUNCTION

Joan Beck

Why does Billy, who seems so bright when you talk with him, have trouble learning in school?

Why can't Beth sit still - without figdeting, poking, talking, jumping up, wandering around, and upsetting the whole class?

Why do loving, apparently fine parents like the Nelsons have three "good" youngsters and one troublemaker like Pete?

What can be done about Ed, who has tantrums six times a day over the most trivial frustrations? Or Johnny, who is so hyperactive and destructive the neighbors have forbidden their moppets to play with him? Or Marty, who writes like a 1st grader, altho he's now in 6th?

Today, the problems of the child who has difficulty learning and/or behaving are being seen in a new light, called by new terms, treated in new ways. All the answers aren't in yet. But today, enough is known about such problems to guide parents into new paths of thinking, absolve them of guilt for mismanaging their offspring, and point the way but of an acutely painful situation.

The basic cause for the problems of the Billys, Eds, Petes, and Beths is brain injury or dysfunction, experts in pediatric neurology, psychology, and other related fields are now discovering.

Unlike mental retardation, minimal brain injury affects only a small part of the brain,

some areas of performance. Unlike cultural deprivation, it's caused by a physical difference in the child - not by lack of mental stimuli in the environment. Unlike emotional illness, it is not the result of interpersonal relationships, altho a child with minimal brain injury may develop emotional problems later on because he is so often misunderstood and not helped.

Sometimes the physical damage to the child's brain can be pinpointed. Perhaps it occurred in an auto accident. Or it shows up on an x-ray or an electroencephalogram. But often there is no obvious injury to the brain that can be proven by the limited diagnostic tools available today.

But because the child's symptoms and learning difficulties, the "soft neurological signs" match those of children with known brain damage, it is now considered logical and useful to assume such injury. Often a child's history will reveal when the injury could have happened - complications in the mother during pregnancy, a premature birth, difficult delivery, a high fever or head injury in early childhood. There is also some evidence that specific types of brain dysfunction may be inherited, particularly by males.

Because physical evidence is often lacking or can be detected only by a skilled pediatric neurologist, children with minimal brain injury have usually been misdiagnosed in the past. Even today, most are sent to child guidance clinics where their parents are likely to be "treated" in an attempt to persuade them they are causing the child's symptoms and damaging him emotionally.

(Some parents have even been told their child cannot learn to read because the shapes of the letters have deeply symbolic meanings - the "o" looking like a toilet seat, for example.)

Generally, parents have been aheda of professionals in recognizing the problems of brain-injured children. Many of the professional-level conferences and booklets on the subject are sponsored by organizations of parents. Parents raise money for research, provide scholarships to train special teachers.

"Often parents of brain-injured children find themselves in the ludicrous position of having to explain the idea of brain injury to physicians, psychologiests and teachers", commented one medical authority.

Just how many children in our schools today suffer from learning difficulties and behavior problems caused basically by minor and undetected brain injury?

Fifteen to 20 percent, estimates Dr. Newell C. Kephart, Director of the Achievement Center for Children, Purdue University.

At least 70 percent of all youngsters referred to a child guidance clinic for any reason whatsoever have detectable, organic brain differences; reports Dr. Sam D. Clements, Universaity of Arkansas Medical Center.

Boys outnumber girls - as much as 6 and 10 to one, some studies show. The number of children with minimal brain injry seems to be increasing, according to Dr. Clements, partly because of more awareness of the problem and better diagnosis. Another factor

may be that because of advances in medical care, more youngsters are surviving to school age with injuries to the brain.

Today, professionals in many areas - pediatrics, neurology, ophthalmology, audiology, speech pathology, psychiatry, psychology and education - are trying to help children who can't learn and can't behave. But there is still no widely accepted method of diagnosis and treatment. Until now, there hasn't even been general agreement about what to call the problem.

To coordinate knowledge and speed research about children with learning problems, the National Institute of Neurological Diseases and Blindness and the National Society for Crippled Children and Adults have sponsored a three-phase research study. The first report, by the project director, Dr. Clements, concerns terms and diagnosis. It was published in March.

At least 38 different names have been given to the minor kind of brain injury or dysfunction that causes learning and behavior problems, notes Dr. Clements in the new report. These include such jaw-breakers as "choreiform syndrome", "cerebral dysynchronization syndrome", "association deficit pathology", and "psychoneurological learning disorders". Others are more familiar to laymen: "perceptual handicapped child" and "clumsy child syndrome". Parent groups have also used "invisibly handicapped child" or simply, "the other child".

"Minimal brain dysfunction" was selected by the project members as the most accurate and useful name. Children with minimal brain dysfunction are defined by these criteria:

They are above normal, normal, or slightly below normal. (but above the educable range) in intelligence.

They have abnormalities in learning and/ or behavior, ranging from mild to severe.

These difficulties are caused by subtle deviations in the central nervous system resulting from inhereited genetic patterns, or irregularities in body biochemistry or injury before, during or after birth, or illness or injury during the early years.

These deviations affect parts of the central nervous system concerned with perception, the forming of concepts, language the ability to pay attention, impulse control, and motor development.

The author will use "minimal brain dysfunction" with this definition as we continue to report to you new research about ways in which this large group of misunderstood children can be helped.

Bob is the most difficult child in the second grade. Altho he seems quite intelligent, he hasn't made any progress learning to read. He tries painfully hard to copy the spelling words correctly, but the marks on his paper don't even come close to looking like letters.

Restless and fidgety, Bob can't sit quietly for a minute and pay attention to the teacher. He talks out impulsively. He paces about the room. He's so boisterour and wild on the playground, disrupts the other children's games so often they tend to ostracize him. Sometimes he breaks down completely into trustrated tears or an angry tantrum.

Yet Bob isn't retarded. "He could do the work if he tried", his teacher and his parents tell each other. But, somehow, Bob does seem to be trying.

Bob is typical of many youngsters who suffer from mild brain injury, or dysfunction. Such a youngster can have any combination of dozens of learning and behavior problems, points out Dr. Clements.

Altho recent medical literature lists at least 320 different symptoms of minimal brain dysfunction, most of them fit into 10 major categories, explains Dr. Clements. These symptoms may be so few and mild the youngster functions only a little below his basic intelligence level. Or they may be so severe he isn't able to attend regular school at all.

Theses symptoms are:

1. Abnormal motor activity. Such a child is overactive. He fidgets. He jumps from one activity to another. He may talk in disorganized torrents. Or, he may be unusually slow in everything he does.

2. Poor coordination. This symptom shows up in clumsiness. The youngster has trouble making his eyes and hands function together. He may have difficulty with fine-muscle activity. Such as buttoning, drawing, writing. Or, he may be slow learning to walk, ride a bicycle, or develop skill in sports.

3. Impulsiveness. A child with M.B.D. can't seem to keep from touching everything and everyone around him. Small stimuli can set him off. He acts- and often talks

before he thinks. He is unpredictable, unmanageable.

4. Short attention span. Concentrating on any one thing - such as what the teacher is saying or what's written on the blackboard is difficult for a youngster with M.B.D. He is easily distracted, often by minor noises or movements in the classroom. Some of these children can become "locked" in an activity, repeating it needlessly until halped to stop.

5. Perceptual disabilities. These can involve the visual, auditory, or kinesthetic and tactile senses, so that a child does not see what others see or hear what they hear or have the same sense of space and size relationships, altho there is nothing wrong with his eyes, ears, or other sense organs.

6. Specific learning problems. Reading, writing, spelling and arithmetic tend to be difficult for a child with M.B.D. But these problems are spotty. He may do well in some areas, poorly in others. His over-all I.Q. score may be in the average range, yet he will score quite high on some subjects and very low on others.

7. Emotionally highstrung. The child with M.B.D. is often irritable, overly sensitive, quick tempered, explosive, moody, hard to live with. He flashes between tantrums and remorse. He panics easily. His tolerance for failure and frustration is low.

8. Language disorders. Speech irregularities are common. Such a youngster may be slow to talk and hard to understand.

9. "Soft" neurological signs, Specific findings of brain damage are not often found, but a child with learning problems often has small indications that something is wrong. He may be cross-eyed. His eye-hand coordination is poor. He may not be clearly right or left handed. Or he may be right handed, but left-eyed. He may have a history of head-banging, teeth-grinding, bed-wetting, sleep problems.

10. Irreularities in the electroencephalogram.

If Johnny has persistent learning or behavior problems in school, he's apt to be labeled "naughty" or "retarded" or "emotionally disturbed", or "lazy", altho in reality he may suffer from minimal brain dysfunction.

Which label he gets will depend, probably on whether he is taken to a pediatric neurologist, a mental health clinic, a children's clinic in a medical center, or the woodshed. The label pinned on him will also determine how much of what kind of help is given.

Finding the real cause of learning and behavior difficulties takes a longer and more skilled diagnostic work-up than most problem youngsters receive, emphasizes Dr. Clements.

If your child has persistent learning and/or behavior problems, you should see that the search for reasons includes the following:

1. A thoro physical exam by a pediatrician or family doctor who knows about the youngster's learning difficulties. A routine school exam or even a regular pediatric check-up isn't enough. It isn't enough, either, for a child guidance clinic to request a form medical report on a child

2. A detailed history of the youngster. This should include information about pregnancy, birth, and early infancy; childhood illnesses; motor, language, and social development; family background; specific relationships with others in the family and with friends; emotional stresses. Also necessary are observations from the child's teachers and principal detailing school behavior and progress. Samples of school work should be available to those studying the diagnosis.

3. A pediatric neurologic examination, including an assessment of neurological development and visual perception.

4. A psychological examination. This should consist of an individual I.Q. test, with a record of sub-test scores; an evaluation of reading skills; measures of visual motor-perceptual functioning; and observations of behavior in many different situations.

5. Education evaluation. Tests should be given to check the child's achievement level in reading, number concepts, spelling and writing.

6. Language evaluation. Skilled tests of speech and hearing are important in diagnosing the reason for school problems.

7. Specific examinations, such as an electroencephalogram, if indicated.

A diagnosis of minimal brain dysfunction usually comes as a great relief to parents. They need no longer feel they are to blame for their child's difficulties in some subtle, psychological way. Explained simply and hopefully, it can also be a relief to a child, who knows he isn't doing as well as others, but hasn't understood why.

Dr. Kephart of Purdue University tells about one such youngster who was being teased on the playground because his eyes sometimes crossed. Retorted the boy: "Look, kid I used to be brain injured. My mother and I are working very hard on my problem and when we get done, my eyes won't cross. In the meantime, shut up."

If your child has minimal brain dysfunction, if he has problems of learning, and/or behavior that have a neurological basis, how can you help him?

As of today, there is no single answer that all experts in this field agree upon. The concept of minimal brain dysfunction is still too new. The problem is too complex. The children differ too much from one another. And too little long-term research in treatment methods has yet been completed.

Yet most children with minimal brain dysfunction can be helped considerably. Here is how to go about it:

First, try to have your child's learning and behavior problems correctly diagnosed because diagnosis often suggests the best treatment methods. You may be lucky enough to live in a community that has an out-patient clinic for children with M.B.D. (and, not too long a waiting list). Or you may be able to get diagnosis and help at a university-affiliated medical center.

These clinics and centers differ somewhat in their approach to minimal brain dysfunction and its treatment. Some put great stress on motor activity - creeping, crawling, trampoling, balance board activities. Some emphasize the development of handedness and coordination.

Others concentrate chiefly on language disorders such as poor speech and inability to read and write.

If neither clinic nor medical center is available, look for a physician who has interest and knowledge in this specialized field (not all doctors do). If your youngster's difficulties have a neurological basis, you will probably not find help in a child guidance clinic or mental health center concerned chiefly with emotional problems.

Some doctors and medical enters report that drugs are useful in helping children with M.B.D. Generally, these are prescribed to reduce hyperactivity and irritability and to increase attention span.

An excellent source of help is the nearest organization of parents with children who have minimal brain dysfunction. These groups now exist in many large cities and some states, but their names vary greatly and may be confusing. Organizations concerned about "perceptual disorders", "learning disabilities", "Invisible handicaps", "minimal brain damage", and "the other child" are dealing with the youngster who has M.B.D.

These parents groups usually publish or make available excellent booklets on ways of helping children of every age who have minimal brain dysfunction. They arrange lectures by leaders in this field. They raise funds to support research and to train special education teachers. Some even sponsor scientific seminars to help educators and child guidance counselors keep abreast of new findings.

Your child may be eligible for a special education class, if he is unable to learn readily in a regular classroom. Such classes are designed for youngsters who are normal or above in intelligence but need a classroom free of every possible distraction and the help of a teacher trained in detecting and working around his learning handicaps. As of now, however, these classes are far too few to serve the urgent need.

You can also obtain a free packet of helpful information about minimal brain dysfunction by writing to the National Society for Cippled Children and Adults, 2023 W. Ogden Ave., Chicago, Ill. 60612. These are available in limited quantities only.

Children with minimal brain dysfunction are not alike, Dr. Kephart told an audience of educators and parents recently. "There is not a method for teaching these children. There are hundreds of methods.

"The problem is to pick the one that works with your particular child. That doesn't mean the rest of the methods are bad. Continue any method that works. Discontinue any method that doesn't work - including mine."

Most treatment methods aim to help the child with minimal brain dysfunction to control his hyperactivity and to direct it constructively. At home, it may help if you can keep your child's life as simple and predictable as possible. He should get up, eat, play, watch television, do homework and chores, and go to bed on a regular timetable. His meals should be simple, served without distracting table settings and without guests.

A youngster with M.B.D. needs a room of his own, or at least a screened-off private area, say most researchers. Colors should be quiet. There should be as few distracting features as possible. Toys and equipment not being used should be stored out of sight. The youngster's desk or table should be turned away from the window.

You can help a child with M.B.D. by showing him how to use his energies in positive activity, by providing desirable outlets for his "motor-drain-off". You will need to supervise him more than a normal child, protect him more, and work harder and longer and most patiently with him as he learns to care for himself and get along with others. Often, you may be able to plan ahead to help him prevent tantrums or emotional outbursts or unacceptable behavior.

A child with M.B.D. needs far more consistant discipline than other children. Adults need to remember that what may seem to be misbehavior may really be what one fater called the "incredible subterfuges with which he strives to conceal his weaknesses."

Special training can often help a child with M.B.D. to overcome his individual learning disability. Practice in learning to hear accurately or exercises in visual perception may benefit him greatly.

Until the training is completely successful, a youngster with M.B.D. may also need what Dr. Kephart calls "crutches"- techniques of learning that compensate for his disabilities. Often an older child can be encouraged to look for these special learning tricks himself.

He may discover, for example, that he can remember a lesson better if he reads it aloud so that he can learn it thru his ears as well as with his eyes. Montessori-type equipment that is self-correcting and structured to teach one particular skill often works successfully with such children. So does a tactile, kinesthetic approach to some phases of learning, such as tracing letters with the fingertips.

How well a child succeeds later on seems to be related less to the degree of brain injury or dysfunction than to his own self-image, suggests Dr. Sol Gordon, graduate school of medicine, University of Pennsylvania.

Tell your child the truth about his problems, Dr. Gordon advises parents. "Tell him that he is handicapped. Above all, don't tell him that he is normal like everybody else. He won't belive you. Tell him that there are only two ways of responding to a handicap. One: Spend the rest of his life unhappy and feeling sorry for himself. Two: Learn to make the best of his assets and become as independent and self-sufficient as pobbible."

"Brain injry is permanent", Dr. Kephart emphasizes. "But the behavior effects of brain damage may not be permanent, if we can learn how to teach th se children.

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